

AMENDED CLAIMS

Claims 1-19 (Cancelled)

20.(New) A device for singling out items, the items delivered from a feeder which conveys said items to an outlet channel and towards an end section, said device comprising:
compacting means placed along said outlet channel for gathering said items one behind the other in a continuous row at said end section;
abutment and catching means for abutting and catching a series of single items and each successive leading item of said row of items at said end section;
extracting and conveying means for driving said abutment and catching means, and for passing said items in a direction of extraction at said end section and transferring and placing said series of singled out items at a handling station;
said extracting and conveying means including a reciprocating driving belt situated close to said outlet channel, facing said end section of the outlet channel;
said abutment and catching means including a plate carried by said driving belt, and a comb connected to said plate, on a longitudinal side facing said end section;
a series of recesses made in said comb and spaced from one another, said recesses having a shape for receiving in abutment and for holding, with respect to the direction of extraction, a respective single item; and,
a series of catching ramps made in said comb and converging towards each recess of the series of recesses, said catching ramps, following passage of the comb in said direction of extraction at the end section of the channel, adapted for individually and successively catching respective leading items conveyed by said outlet channel towards said end section and released by the abutment means, and for accompanying each of said singled out items into a respective recess.

21.(New) The device according to claim 20, wherein said comb is alternately moved by the driving belt from a first retracted end position located upstream of the outlet channel end section with a first catching ramp to a second end position advanced from the first position in the direction of extraction, a robot operated handling station located at the second position, the shift

of said comb from said first retracted end position to said second advanced end position extracting and catching, using said ramps and recesses, a series of single and successive items from said outlet channel, and transferring and placing said items at said robot operated handling station.

22. (New) The device according to claim 20 wherein said outlet channel is inclined to ease conveyance of said items towards said end section due to gravity.

23. (New) The device according to claim 20 wherein said compacting means include a plurality of nozzles for directing compressed air jets on the items from an upstream direction to a downstream direction towards the end section as the items are conveyed towards said end section.

24. (New) The device according to claim 20 further comprising stop means at said end section for striking a leading item of the row of items and temporarily holding said items in said outlet channel, and for releasing said items in phase relation with passage of said abutment and catching means through said end section.

25. (New) The device according to claim 20 wherein said comb has a series of recesses spaced from one another by a fixed amount, the comb receiving said items in abutment and holding respective and subsequent leading items for singling out items and placing the singled out items at regular distances from one another.

26. (New) The device according to claim 20 wherein said driving belt is an endless belt oriented horizontally and having an upper operative branch supporting said plate.

27. (New) The device according to claim 20 further comprising a conveying line for conveying containers with which said singled out items are to be associated, said conveying line transferring said containers to the handling station, said driving belt arranged beside the conveying line.

28. (New) The device according to claim 27 wherein at said handling station, said comb sets out said series of items, singled out and spaced out by said comb in correspondence to a series of containers conveyed by said conveying line to said handling station.

29. (New) The device according to claim 21 further comprising stabilising means associated with said comb for keeping said singled out items firmly oriented and housed within said recesses

during transferring from said first retracted end position to the second advanced end position.

30. (New) The device according to claim 27 further comprising a robot operated unit situated at said handling station for picking up said series of singled out items from said recesses of said comb and for transferring said series of singled out items to said conveying line, for associating said singled out items with said series of containers.

31. (New) The device according to claim 30 wherein said robot operated unit includes an operating head for supporting and moving a plurality of pick up means provided in a number at least corresponding to said series of items transferred by said comb to said handling station.

32. (New) The device according to claim 20 wherein said items are stoppers for dispensing metered quantities of products contained into said container to which said stoppers are to be added, each stopper having a tube which is to be introduced into and situated within said containers, said device further comprising stabilising means associated to said comb for stabilizing and keeping a series of said singled out stoppers caught by said ramps and held by said recesses oriented with the tubes substantially vertical during transferring of said comb from said first retracted end position to the second advanced end position at said handling station.

33. (New) The device according to claim 32 wherein said stabilizing means include a series of clamps, each clamp of said series of clamps being operatively associated to said comb, below a corresponding recess of said series of recesses, each clamp gripping a tube of a stopper caught by a corresponding recess, in phase relation with the passage of the recess at the end section of said outlet channel so as to stabilise the caught stopper during passage.

34. (New) The device according to claim 32 wherein said stabilizing means include a counter-guide arranged counter-facing the comb in a path leading from the first retracted end position to the second advanced end position, said counter-guide holding the singled out items gripped between the counter-guide and the recesses of the comb during transfer to said handling station.

35. (New) The device according to claim 34 wherein said counter-guide has an L-shaped cross-section for receiving an outer portion of said stoppers caught by said comb.

36. (New) The device according to claim 32 further comprising a container conveying line for conveying a series of containers to which the spaced out stoppers caught by said comb at said

handling station are to be applied, and, a robot operated unit located at said handling station for picking up said series of stoppers, and raising said series of stoppers to release the tubes from said stabilizing means, for transferring said series of stoppers to a position above said series of containers, lowering said series of stoppers to introduce completely said tubes into said containers and to complete application of said stoppers to said containers.

37. (New) The device according to claim 36 wherein said robot operated unit has an operating head for supporting and moving a plurality of pick up means present in a number at least corresponding to the series of said stoppers singled out and transferred by said comb at the handling station, a series of clamp means vertically moving on top of the series of containers, arranged along said conveying line, said clamp means for encircling the tubes of said stoppers at their upper portion, in phase relation with a transferring of said stoppers to a position above said containers carried out by pick up means, and for sliding downwards along said tubes toward a bottom portion of said tubes, for straightening the tubes just before said pick up means are lowered, and for guiding the tubes, when said pick up means are lowered, to facilitate introduction of the tubes into said containers, said clamp means releasing said tubes to allow said pick up means to complete application of the stoppers to said containers.